Articles

The Physician as a Patient Educator
From Theory to Practice

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Patient nonadherence to therapeutic regimens is a serious issue in the practice of medicine. Empiric studies done by professionals from diverse backgrounds have shown that physicians who use educational strategies can be effective in gaining the cooperation of patients to follow their recommendations. The educational model that currently is most familiar to physicians and the one they use most frequently when educating patients is pedagogy, the theoretic basis for teaching children. Andragogy, a theoretic basis for teaching adults, is now being suggested by medical educators as an alternative model. To illustrate the clinical relevance and application of the andragogic approach, studies focusing on physician behaviors associated with behavioral measures of adherence were reviewed, analyzed, and categorized according to a framework called the "ADULT" model. Physicians in a postgraduate training program who have had exposure to this framework and have incorporated it into their practices report less difficulty functioning as patient educators. The systematic use of this approach can have a positive effect on patient adherence.

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Estimates of patient nonadherence to physicians' therapeutic recommendations range from 50% to 92%.[1] Reviews of empiric studies have repeatedly emphasized the magnitude and pervasiveness of this problem,[2,3] and recently Haynes[4] identified it as one of the most important issues medical practitioners face today.

To identify the factors affecting patient nonadherence, the physician-patient relationship has been studied extensively over the past three decades by physicians, psychologists, sociologists, educators, and anthropologists. While some investigators have analyzed the dyadic relationship from broad philosophic and sociologic perspectives,[5-8] others have examined the behavioral interactions that take place between patients and their physicians.[9-36] Initially the emphasis of the interactional research was on patient behavior, but attention gradually shifted to physician behavior and its role in this complex exchange. We will examine the research related to physician behavior.

The accumulated data supporting physician interactive behaviors and their positive effect on patient adherence are extensive. While these physician behaviors are often characterized by investigators as interpersonal skills in interviewing, communication, or instruction-giving, they are also regarded as educative because they are all means of facilitating decision making that enhance the likelihood of behavior change on a patient's part.

According to Brunton,[37] the educational theory most familiar to physicians and the one they use most frequently when educating patients is pedagogy. This theoretic framework refers to a body of knowledge that forms the basis of teaching children. Medical educators are now suggesting that andragogy, an adult learning theory described by Malcolm Knowles,[38,39] be considered as an alternative conceptual framework because the majority of patients are adults and because the results of adherence research confirm the usefulness of this approach.[37,40]

Based on well-recognized conditions of learning and principles of teaching adults, andragogy differs from pedagogy primarily in its central premise regarding the teacher-learner relationship. In the pedagogic model, the relationship between the teacher and learner is based on authoritative expertise. The teacher's role is to determine the nature and scope of the educational program and then to instruct the passive, cooperative learner. In the andragogic model, the teacher-learner relationship is one of mutual participation. The teacher's role is to facilitate, promote, and encourage the learner's active involvement in developing and planning the educational program.

Although medical educators are suggesting that physicians consider using the andragogic approach to patient education, the clinical application of this theoretic framework has yet to be described in the literature. The purpose of our report is to illustrate how the full range of physician behaviors associated with improved patient adherence can be applied to the clinical setting within the context of an adult learning theory.

We review here 28 investigations of the physician-patient relationship that have established a positive association between specific physician interactive behaviors and behavioral measures of patient adherence. A total of 46 physician behaviors were identified. After analyzing their relevance to andragogy, it was possible to categorize these generic behaviors into the five basic steps of the educational process that parallel the usual sequence of activities of the physician-patient interview: step 1: establish rapport; step 2: assess needs; step 3: develop a plan; step 4: implement the plan; and step 5: evaluate the plan.

Clinicians, continually pressed with the medical aspects of the interview and ever mindful of time, are not expected to carry out each of these behaviors at every patient visit. Rather, it is the conceptual premise of active patient involvement in each step of the educational process that is crucial. The use of specific physician behaviors is expected to vary from time to time depending on circumstances. The

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following guidelines for implementation have been developed around the mnemonic, ADULT:

Guidelines for Physician-Patient Education

A Establish rapport by eliciting patient's *Active involvement*
D Assess needs by listening carefully as patient *Discusses concerns*
U Develop a plan by promoting an *Understanding of the issues*
L Implement the plan by offering patient opportunities to *Learn new behaviors*
T Evaluate the plan by identifying strategies for *Tracking patient's progress*

Review of the Literature

Step 1: Establish Rapport

A summary of the studies that document the importance of physicians developing agreeable relationships with patients is given in Table 1. Several studies illustrate this theoretic construct.[9,11,12,18,19,23,35]

One of the first researchers to identify the value of a caring attitude on the part of the physician, Alpert did a causal-comparative study of appointment-keeping behaviors of 1,588 patients attending Boston Children's Hospital Medical Center Outpatient Department.[9] Of those who kept their appointments, 77% generally agreed that their physicians were interested in them as patients, as compared with only 54% of those who did not keep their appointments.

In his descriptive study of 119 new patient-physician visits and 104 follow-up visits of the same patient-physician dyads, Davis discovered that providing opportunities for patients to release tension enhanced patient adherence.[11,12] He concluded his report by emphasizing the importance of establishing rapport with patients to "build commitment to the relationship so that ultimately the patient will follow advice," a finding later substantiated by other researchers.[10,18,35]

Korsch and associates studied 800 acutely ill children brought for a first visit to the emergency clinic at Childrens Hospital of Los Angeles.[23] Analyzing data derived from tape recordings of the physician-parent or child interaction and two follow-up interviews with the parents, Korsch and coworkers discovered that parents who identified physicians as courteous, friendly, and personable were more likely to follow medical advice than were parents who perceived the physicians as businesslike, inattentive, and uncaring.[23] Interest, empathy, and concern of physicians toward their patients were also associated with higher rates of adherence. As part of the same study, Freemon and colleagues analyzed the content of 285 of the visits and found that the greater the degree of physician friendliness, the more likely the patients were to comply with advice.[18] While Korsch, Francis, and Freemon and their co-workers did not claim that physician warmth alone affected adherence, they did report that a blatantly unpleasant manner on the physician's part adversely affected patient cooperation.

Stewart assessed whether patient-centered interviews encouraging active patient involvement were related to patient satisfaction and adherence.[35] In a causal comparative study of office visits of 24 Canadian family physicians, 140 patient visits were audiotaped and their content analyzed using Bales Interaction Process Analysis.[41] A bivariate analysis showed that patient-centered interviews were related to significantly higher reported adherence.

A study done by Greenfield and associates in 1985 illustrates the benefits of encouraging patients to be actively involved in physician-patient interactions.[19] At Veterans Administration Medical Center, 45 outpatients with peptic ulcer disease were randomly assigned to experimental or control groups. The experimental intervention, consisting of an individualized 20-minute educational session just before their visit with their physician, focused on assisting them in identifying relevant medical decisions warranting discussion with their physicians according to a preestablished algorithm. Assertive techniques patients could use to overcome barriers to discussing identified issues with their physicians were reinforced. After the visit with the physician, the experimental group received copies of the algorithm and their medical record. The control group received only a session of comparable length that focused on reviewing a standardized protocol. Statistical analysis of the data showed that patients in the experimental group had a greater degree of involvement and assertiveness in their interactions with physicians and reported fewer physical limitations, less pain, and an increased preference for active involvement in the medical decision-making process than did their counterparts in the control group. Furthermore, these effects were achieved in a veteran population, one that is characteristically older, more entrenched in the pedagogic style, and less likely to be assertive in medical decision making.

Step 2: Assess Needs

Several studies identify physician behaviors related to the second step of the educational process (Table 2). A few have been selected for discussion purposes.[15,22,23,26,28,29]

In the previously mentioned study involving pediatric patients, Korsch and associates found that physicians who identified the main concerns of the patients' parents were more likely to enlist their cooperation during subsequent visits.[23] Of 625 parents who said their physicians understood their concerns, 83% expressed satisfaction and ad-

TABLE 1.—*Step 1: Establishing Rapport*

Physician Behavior	*Source**
Act in courteous, friendly manner	18, 23, 35, 36
Show interest, empathy, concern	9, 13, 17, 18, 23, 35
Provide opportunities for release of patient tension	10, 11, 12, 18, 35
Encourage active involvement of patient	15, 19, 22, 25, 29, 30, 31, 33, 34, 35
Communicate in language patient can understand	9, 23
Listen attentively to patient	23, 26
Show sensitivity to psychosocial issues	24, 29

*Numbers refer to those in list of references at end of article.

TABLE 2.—*Step 2: Assessing Needs*

Physician Behavior	*Source**
Identify patient concerns, issues	15, 17, 22, 23, 28, 29, 33, 34, 35
Explore patient's knowledge of issue	22, 24, 25, 26, 29
Explore patient's attitudes, beliefs about issue	22, 25, 26
Explore patient's attempts or skills in dealing with issue	22, 24, 25, 29
Explore patient's level of motivation or ability to change	22, 25
Identify patient's strengths and limitations	22, 24, 29

*Numbers refer to those in list of references at end of article.

hered to the regimen prescribed for their child, but of the 80 parents who perceived their child's physician as not understanding their concerns, only 32% expressed satisfaction and were cooperative.

In his report of a quasi-experimental study involving 100 outpatients with congestive heart failure, Rosenberg further showed the importance of a needs assessment.[29] The 50 patients in the experimental group were routinely interviewed by their physicians and other health care team members to identify their perceived needs, concerns, and worries. These data were used to plan interventions that led to a reduced number and duration of hospital admissions and enhanced other measures of improved health status.

Eisenthal and associates also studied the effects of eliciting, hearing, and understanding patient requests and subsequently using these requests as a basis for formulating a treatment plan with patients.[15] In a prospective study, they examined the effect of this kind of "negotiated" approach with 300 new patients attending an acute psychiatric service. Half of the patients were seen by physicians trained to use the negotiated approach, while the other half were assigned to a control group whose physicians used the "traditional" diagnostic approach. Patients in the experimental group were much more likely to adhere to the treatment plan than were those in the control group.

Similar findings were reported by Orth and colleagues in a study of 217 hypertensive patients visiting one of nine physicians in four community health centers in Houston, Texas.[28] The interactions were analyzed using a taxonomy of verbal response modes.[42] The results showed a positive correlation between the patients' expressions of their concerns, worries, or reasons for seeking treatment and improvements in blood pressure.

In a study done by Inui and colleagues in 1976,[22] physicians were taught how to explore their hypertensive patients' level of knowledge, health beliefs, and adherence behaviors. The physicians were also taught to use this information to develop individualized patient education interventions. Patients in the experimental group showed consistently improved adherence and better blood pressure control than did patients in the control group.

In a study carried out in the Department of Medicine at the University of California, Los Angeles, Linn and Wilson reviewed the needs assessment approach used by 76 interns and residents with their patients who were scheduled for clinic visits.[26] They found that physicians in the general clinic who had been trained to explore patients' thoughts and feelings in a nonauthoritarian manner and who used a facilitating rather than a nonfacilitating response had lower "no-show" rates than did physicians from the regular clinic who lacked this training. Personal telephone cancellation rather than unexplained appointment breaking was also significantly higher for the first group. While the authors concluded that good interpersonal skills alone are not sufficient to effect improved adherence with follow-up visits, they stressed that the communication style of the health care provider can certainly make a difference in patients' follow-up patterns.

TABLE 3.—*Step 3: Developing a Plan*

Physician Behavior	*Source**
Address patient's concerns, issues	22, 23, 29, 33, 34, 36
Explain findings of examinations, tests, x-ray films	16, 19, 29
Inform patient of diagnosis, conclusions	16, 17, 18, 19, 23, 25, 29
Explain cause of problem	16, 17, 23, 28
Explain prognosis, implications	16
Express concern about patient's behavior	25
Explain benefits of changing behavior	25
Identify decisions that need to be made	19
Elicit patient involvement in decision-making process	15, 19, 24
Inform patient of treatment options, consequences	15, 19, 25
Elicit treatment preferences of patient	15, 19, 22, 29, 35
Recommend treatment plan to patient	11, 12, 17, 19, 22, 23, 25, 29, 32, 33, 34, 36
Provide rationale for choice of treatment	19, 22, 36
Attempt to resolve patient-physician differences	15, 19, 22, 29

*Numbers refer to those in list of references at end of article.

Step 3: Develop a Plan

Table 3 delineates physician behaviors related to developing a plan with patients. At this step physicians collate the derived needs of patients with their professional assessments of the situation into a therapeutic plan for the patients' consideration. Numerous reports illustrate this concept.[15,17,19,23,32-34]

Korsch and co-workers noted that one of the highest rates of dissatisfaction mentioned during follow-up interviews with parents occurred in those visits where the main concerns of the parents remained unaddressed.[23] Starfield and associates also emphasized the importance of considering patients' concerns as an essential step in the process of care.[33] In a study designed to examine the effects of greater patient participation in the interview process, the authors found that follow-up adherence was better for those issues for which both patient and physician had agreed on the necessity of follow-up care. Increased patient participation was also associated with an overall improvement in health status. Of the recognized problems that were listed jointly, 63% were reported as improved as compared with 22% of those listed by patients only. A second study of a similar nature by Starfield and colleagues on a separate sample of patients confirmed the findings of the earlier study.[34]

In their analysis of tape recordings gathered during 800 new-patient pediatric visits, Francis and associates discovered that when physicians provided feedback by explaining the diagnosis and its cause, patient adherence increased.[17] Mothers who expected to learn the cause and nature of their child's illness and failed to do so were less likely to follow medical advice than were those whose expectations were met.

In their study of patients with peptic ulcer disease, Greenfield and co-workers found that identifying decisions that needed to be made and encouraging patients to become involved in the decision-making process had a positive influence on patients' adherence.[19] They also noted that informing patients of treatment options and their consequences and identifying patients' treatment preferences proved beneficial.

Russell and associates did a study that shows the influence of physicians' recommendations on patient adherence.[32] The researchers randomly assigned 2,138 cigarette-smoking patients of 28 general practitioners in five group practices in London to one of four groups: nonintervention control, questionnaire only, advice by their physician to stop smoking, and counseling and specific written information designed to facilitate smoking cessation. Physician education emphasized motivating patients to make specific behavioral intentions and commitments to stop smoking.

The results showed a positive linear relationship between the strength of the interventions used and the patient's ability to stop smoking. Patients who received both counseling and written materials achieved the greatest reduction in smoking of all groups, with 5.1% still not smoking after a year of follow-up. This compared with 3.3% for the advice-only group, 1.6% for the questionnaire-only group, and 0.3% for the nonintervention control group.

As mentioned earlier, Eisenthal and co-workers studied the effects of using patients' requests as a basis for formulating treatment plans.[15] Patients in the experimental group whose requests were used to "negotiate" a treatment plan were much more likely to adhere to it than were those in the control group. The investigators concluded that the experimental approach served to validate patients' ideas and predispose them toward greater participation in developing their treatment plans.

Step 4: Implement the Plan

Table 4 summarizes the research findings associated with implementing the educational plan. Three approaches to implementation have been identified: individualized instruction, or one-on-one instruction of patients by their personal physicians; instruction that is adjunctive in nature, or that which is done by other health professionals under the supervision of the patient's personal physician; and referral to an educational program designed for a specific patient population. We focus on the first two approaches.

Individualized instruction. Many researchers have reported positive outcomes of one-on-one physician instruction of patients, and this is the most frequently used physician implementation strategy to effect behavior change. A few representative studies have been selected for discussion.[22,24,36]

The importance of physician instruction is illustrated by Svarstad's study involving 153 adult black and Puerto Rican patients seen by eight physicians at a neighborhood health center in an urban ghetto.[36] A content analysis of transcripts showed that patient conformity was higher when physicians had been friendly but authoritative (not authoritarian) and instructive. Giving explicit instructions and emphasizing important issues were also associated with higher rates of adherence.

TABLE 4.—*Step 4: Implementing the Plan*

Physician Behavior	*Source**
Exert authority	11, 12, 36
Reinforce healthy behaviors, beliefs of patient	19, 20, 22, 25, 29
Simplify treatment regimen	17, 21
Tailor treatment regimen to patient	14, 19, 20, 21, 22, 23, 24, 25, 29
Organize instruction	19, 20, 24, 25, 29
Provide adequate amount of relevant information	14, 18, 19, 20, 24, 25, 28, 29
Instruct patient on specific skill	10, 14, 20, 21, 22, 24, 25, 29, 36
Emphasize important points	19, 20, 24, 29, 36
Provide opportunity to practice skill	14, 19, 24
Supplement discussion with handouts	19, 20, 24, 25, 29, 32
Encourage patient to use family or social supports	24, 25, 27, 29
Summarize major points	25

*Numbers refer to those in list of references at end of article.

As mentioned earlier, Inui and colleagues conducted a study of physicians treating patients for hypertension.[22] In this study, 29 physicians assigned to the experimental group were taught to explore their patients' level of knowledge, health beliefs, and adherence behaviors and to use the assessment information in designing interventions for their patients. The 33 physicians in the control group used the traditional approach to patient interviews. Outcomes of the study showed that physicians in the experimental group spent more time providing patients with relevant information and instruction on specific self-care skills, with the result that their patients showed improved understanding, satisfaction, adherence, and blood pressure control as compared with patients of control group physicians.

In a study directed by Levine and Britten, 45 patients with hemophilia were individually instructed by their physicians in the management of their bleeding disorders.[24] Patients and members of their immediate families received organized instruction consisting of a combination of cognitive and skill-building strategies. Data collected during 12 months of the program were compared with data collected from the previous year, so that patients served as their own controls. The investigators found reductions of 74% in the amount of absenteeism, 89% in the number of days in hospital, 76% in the number of outpatient visits, and a 45% decrease in health care costs for the year in which the experimental instruction was given. The authors recommended that this type of individualized teaching by physicians could be used as a model in treating patients with other chronic illnesses.

Adjunctive instruction. Egbert and colleagues were among the first investigators to report the positive effects of adjunctive patient instruction by members of an interdisciplinary health team.[14] A total of 98 surgical patients admitted to the Massachusetts General Hospital (Boston) for an elective intra-abdominal operation were randomly selected for experimental and control groups. Those in the experimental group received a combination of cognitive, motivational, and skill-building education and reinforcement from the anesthesiology and nursing staffs. The patients in the control group received the usual presurgical care. Patients in the experimental group requested 50% fewer narcotics for the relief of postoperative pain and were ready for hospital discharge 2.7 days earlier than were patients in the control group.

Rosenberg also reported the value of a team approach to patient education as an adjunct to personal physician education through regular physician visits.[29] In this study, patients in the experimental group and their family members participated in self-help support sessions involving discussions with physicians, nurses, dietitians, and social workers. This group had more positive health outcomes than did members of the control group as measured by hospital readmissions and functional status at the end of the project.

In a study of 38 hypertensive Canadian steelworkers, Haynes and colleagues examined the effects of an adjunctive educational program.[20] Patients who had neither adhered with previously prescribed medications nor were at goal diastolic blood pressures six months after starting treatment were randomly assigned to an experimental or control group. Members of the experimental group were taught to measure their own blood pressure, asked to chart their blood pressures and pill taking, and taught to adjust their pill taking to their daily habits and rituals. This group was also monitored biweekly, and these patients were praised when improvements in adherence and blood pressures were noted. Six months after the study had begun,

adherence in the experimental group had risen by 21.3% while control group adherence had fallen by 1.5%. Blood pressures fell in 17 of 20 experimental group patients (to goal in 6) and in 10 of 18 control patients (to goal in 2).

Step 5: Evaluate the Plan

Table 5 summarizes the findings related to the fifth step of the educational process. Several investigators have noted the value of eliciting patient feedback throughout the interview.[14,23-25,30,36]

Korsch and associates were the first to report that giving patients an opportunity to ask questions had a positive effect on patient satisfaction and adherence.[23] In 1977, Roter showed the efficacy of eliciting and responding to patient questions.[30] She randomly assigned adult patients in a general medical practice to an educational program that trained them to ask more questions about their problems and therapy during visits with their physician, with the intention of helping patients become better informed. The control group continued to receive care in the traditional manner. A subsequent evaluation showed that patients in the experimental group did indeed take a more active questioning role during their visits, became better informed, and demonstrated improved continuity of care than did patients in the control group.

In her study of physician-patient communication, Svarstad reported that when physicians made an effort to identify patient nonadherence, patients were more apt to admit their difficulties.[36] The physicians who used this information as a basis for advising their patients of alternative ways of coping with undesirable side effects of treatment regimens had increased patient adherence.

Li and co-workers examined the effectiveness of a media program that included—among varied combinations of four interventions—a physician-delivered message to encourage smoking cessation among 1,179 young women in two public family-planning clinics.[25] The physician message included identifying patient barriers to the recommendation to quit smoking and offered suggestions on how to overcome those barriers. A significantly greater number of patients who received this intervention quit smoking than did those who did not have the benefit of the physician message.

In their study of surgical patients, Egbert and colleagues found that providing encouragement, support, and positive reinforcement to patients enhanced the likelihood of patients' cooperating with therapeutic recommendations.[14] Several studies corroborated the findings of Egbert and associates.[19,20,24,25,29]

Close monitoring of patient behavior, facilitated by a careful documentation of interventions in the medical record, is another method of evaluating outcomes that has been shown to have a positive effect on adherence. Levine and Britten reported this in their study of individualized instruction of patients with hemophilia.[24] Careful monitoring enabled physicians to quickly identify and adjust treatment regimens to suit patients' medical conditions and living situations.

TABLE 5.—*Step 5: Evaluating the Plan*

Physician Behavior	*Source**
Provide opportunities for patient to ask questions	10, 18, 19, 23, 24, 29, 30, 31, 33, 34, 35, 36
Explore patient's understanding of plan	19, 22, 24
Explore patient's expected adherence	22, 25, 29, 36
Work with patient to overcome obstacles to adherence	22, 24, 25, 29, 36
Give encouragement, support, reassurance	14, 19, 20, 24, 25, 29
Monitor patient's progress	20, 22, 24, 25, 29, 32, 36
Record plan in medical record	20, 22, 24, 25, 29, 32, 33, 34

*Numbers refer to those in list of references at end of article.

Discussion

The physician's role as a patient educator is not new. The word "doctor" comes from the Latin, *docere,* meaning "to teach, to lead forth," and as early as the fifth century BC, Hippocrates endorsed the practice.[43] In 1910 Abraham Flexner, in his highly regarded commissioned report on the state of medical education in the United States, affirmed the view that "the physician's function is fast becoming social and preventive, rather than individual or curative," and urged physicians, "through measures essentially educational, to enforce the conditions that prevent and make positively for physical and moral well-being."[44(p260)] Physicians are once again being encouraged to use educational strategies as a means of enhancing patient decision-making skills.

Currently there appear to be two major educational theories guiding physicians in their role as patient educator. According to Brunton, physicians most frequently use the pedagogic approach in that they assume an authoritative role by determining the nature and scope of the educational process.[37] Often the main focus of this type of educational intervention is to increase the patient's knowledge and understanding of the diagnosis and treatment plan. This concept of patient education, with its emphasis on imparting information and instructions during the concluding segment of the interview, is appropriate and, at times, imperative. Critics of this approach think it is limited in its potential for effecting decision making leading to behavioral change because it is physician-dominant, informational in content, and tends to foster patient passivity and dependence if used exclusively.[7,8,45,46] Another criticism is that when patients are only passively involved in the educational process, their commitment and determination to carry out the recommended treatment regimen may be undermined. While special circumstances necessitate using the pedagogic approach, patients have objected to this method, viewing it as authoritarian and paternalistic.[7,47,48] For some patients, it can lead to resentment, resistance, and, ultimately, to their changing physicians in hopes of finding one who relates to them in a more egalitarian manner.[49,50] The deleterious effects of using the pedagogic approach inappropriately are well chronicled in the adherence literature and include failed rapport, nonadherence, frustrated physicians, and an increased risk of malpractice suits.[2,3,51,52]

This review of the literature offers physicians an alternative approach to their role of patient educator. By using various facilitative behaviors that are initiated at the start of the interview and continued throughout the physician-patient relationship, physicians can encourage and promote the active participation of patients. Because active patient involvement in the decision-making process has been shown to enhance motivation and build commitment to the therapeutic plan, there is reason to think that the systematic use of these physician-initiated behaviors—which are generic and apply to clinicians in all types of settings—can significantly increase patient adherence.

Training physicians in patient education skills is still relatively new, but medical school curricula are reflecting

change as is evidenced by reports of those involved in teaching interviewing skills to students.[53-56] According to the *Directory of Health Education Programs in Medical Education,* there are currently 120 patient education programs in the United States at the medical school or residency level that are involved in teaching these skills to physicians.[56] Physicians in one residency program who were taught to use the ADULT framework in their practices reported more positive attitudes toward patient education and less difficulty conducting patient education activities than physicians in other programs who were not taught these skills.[57-59]

Beyond the narrower issue of adherence, nearly every aspect of medicine relies heavily on educational interventions for success. In the final analysis, each time a physician interacts with a patient, that physician is in a position to determine the educational approach to be used. After reviewing the literature, it is apparent that both the widely practiced pedagogic and the newer andragogic approaches to patient education are clinically relevant. Substantial evidence supports the increased use of the andragogic approach not only because it offers the potential for improving patient adherence, but because it recognizes and treats patients as adults while enhancing their overall physical and mental growth and development.

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